Today's Calculators Do More of a Job

By M. J. BEVANS, Associate Editor

SMOOTH, swift and sophisticated, the new calculators are one of the most impressive office products on the market today. From a simple numerical computation to a complex regression analysis, these machines boast a range of capabilities that makes them a valuable tool for any sized office. Managers have their pick of machines that feature many work-easy attractions: square root, floating decimal, storage registers and programmability, to name a few. Indeed, on the top of the lines, the new breed of calculators can just about think, as well as learn and make logical decisions.

Reports indicate that within the next few years the electronic machines will dominate the market. With prices for such units coming down, the electro-mechanical machines, it is predicted, will lose much of their price advantage. The big puzzler for many purchasers, however, remains whether to stay with an electro-mechanical or buy an electronic calculator. The choice is not easy and will vary from company to company.

THE PROS

THERE are many advantages to owning an electronic unit, but many though they are, the electronic calculator will not necessarily be found useful in every office. Examining the pros of these calculators, the first thing that will strike the purchaser are the many different uses these machines can be put to.

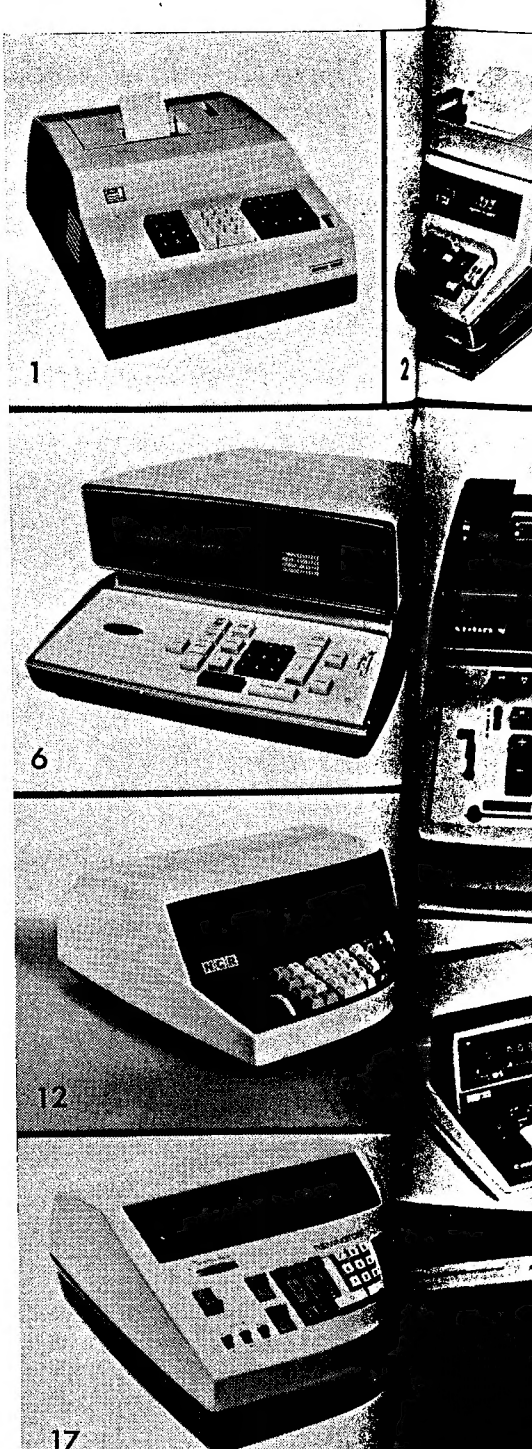
Take, for example, a machine like the Burroughs C3350 electronic calculator. As one example of its versatility, this top-of-the-line model can automatically extract a square root in less than one-third of a second. It has two independent electronic core storage memories; each memory provides sixteen digits, each with eight decimal places, and minus total capability. Individual tubes light up to provide large, bright digits for easy readability.

But the Burroughs machine is not unique in its achievements. Other manufacturers' models offer the same or similar capabilities combined with other features.

Some of the outstanding features exhibited by electronic machines include:

Square Root. By simply pressing a key, the square root of any number can be extracted immediately. In addition to being a valuable tool for scientists and engineers, such a feature can also be used to figure standard deviations when computing statistical data. Some of the machines which feature the square root capability are, the Monroe Epic 3000, the SCM Cogito 566 PR, the Olivetti Logos 328 and the new NCR and Nippon Columbia units.

Storage Memories. Memories enable a wide range of capabilities to be achieved. Sony's Sobax ICC-500W, for example, has two memory functions. One memory affords the ability to store different totals for continuous use in operation and also has a feature to hold and accumulate many different totals. Storing the intermediate answer eliminates the possibility of error in



manually re-entering or tra
ferring figures. Another me
ory is built around the "R"
which permits recall, repeat
reverse operations as requir

Commodore's AL-1000 c
tains magnetic core memor
which allow all constants sto
in memory registers to rem
unaltered or destroyed by
operation or loss of electric p
er. They remain available
the operator decides to clear
the constant from the regi
in question. This machine

two regis
Speed.
tors are f
chanical
tremely hi
the Facit
Compet-16
seconds w
chanicals
onds, espe
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of the el
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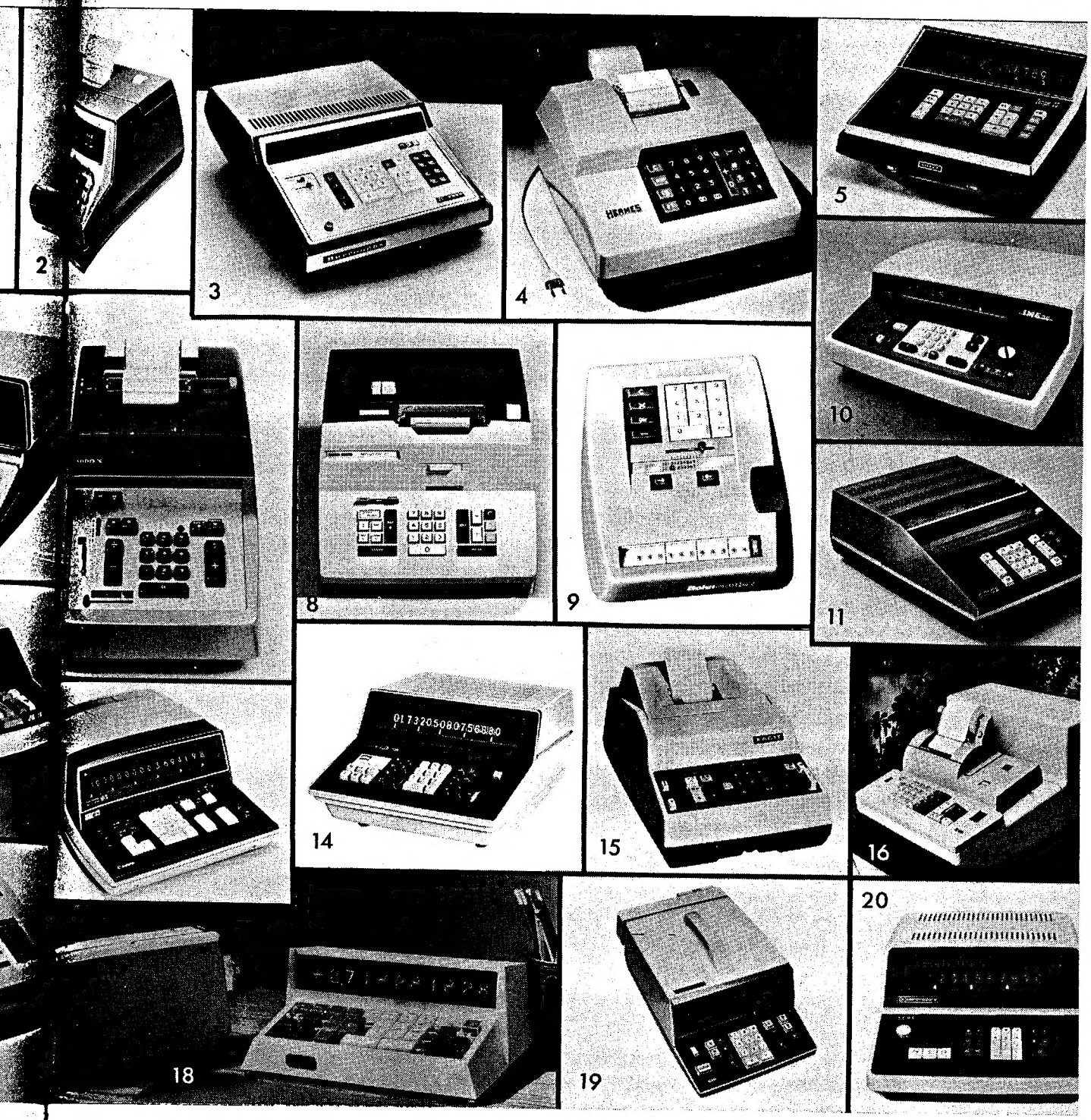

two registers of seven digits.

Speed. All electronic calculators are faster than electro-mechanical models and offer extremely high speeds. A unit like the Facit 1123 or the Sharp Compet-16 give answers in milliseconds while most electro-mechanicals may take several seconds, especially with problems involving multiplication or division. The high operating speeds of the electronics with such problems can be a big plus to many companies where dollars

The new calculators, whether they are electronic or mechanical, are meeting the new needs of business. All indications are that they will continue to grow in importance as an office tool. Featured above are: (1) Victor Comptometer 1503R Printing Calculator; (2) SCM's 416S—Rotary/Printing; (3) Burroughs Corp.'s C3350—Electronic; (4) Paillard's Hermes 167—Printing; (5) Sharp's Compet 22—Electronic; (6) Friden's 132—Electronic; (7) The Addo-X 4383—Printing; (8) Monroe's Epic 3000—Electronic/Printing/Programmable; (9) Bohn Rex-Rotary (Div. of Victoreen, Inc.) Contex—Rotary; (10) IME Sales Corp.'s Model 26—Electronic; (11) Dictaphone Corp.'s 1410—Electronic; (12) The NCR 18—Electronic; (13) Canon U.S.A.'s 161S—Electronic; (14) Toshiba-America's Toscal Model BC-1621—Electronic; (15) Facit-Ohdner 1051—Printing; (16) The Olivetti Underwood Logos 328 Electronic/Printing; (17) Remington's EDC 111 Electronic; (18) Wang Laboratories—Electronic; (19) Sony's Sobax—Electronic; (20) Commodore Business Machines' 500E—Electronic.

AM's GUIDE TO CALCULATORS

MANUFACTURER OR DISTRIBUTOR	MODEL NAME	PRICE	TYPE (Printing, Rotary, Electronic, etc.)	KEYBOARD (Full, Abridged, 10-Key, etc.)	CAPACITY (No. of Columns)	FULLY OR SEMI-AUTOMATIC	STORAGE FACILITIES (Yes or No)	BACK TRANSFER FEATURE (Yes or No)	DECIMAL POINT IDENTIFICATION (Yes or No)	INQUIRY CARD NO. TO CIRCLE FOR MORE DATA
ADDO-X, INC.	3353	$ 399.00	Printing	Ten-Key	12/13	Fully	No	No	Yes	170
ADDO-X, INC.	3653	449.00	Printing	Ten-Key	12/13	Fully	Yes	No	Yes	170
ADDO-X, INC.	4353	449.00	Printing	Ten-Key	12/13	Fully	No	No	Yes	170
ADDO-X, INC.	4653	650.00	Printing	Ten-Key	12/13	Fully	Yes	No	Yes	170
ADDO-X, INC.	4383	625.00	Printing	Ten-Key	11/13	Fully	Yes	Yes	Yes	170
ADDO-X, INC.	3683	585.00	Printing	Ten-Key	11/13	Fully	Yes	Yes	Yes	170
ADDO-X, INC.	4683	725.00	Printing	Ten-Key	11/13	Fully	Yes	Yes	Yes	170
ADDO-SABATRONIC	9917	$1,995.00	Printing-Electronic	Ten-Key	18/20	Fully	Yes	Yes	Yes	170
ADDO-XONIC	9357	950.00	Tube Display Electronic	Ten-Key	14	Fully	Yes	Yes	Yes	170
ADDO-XONIC	9657	1,225.00	Tube Display Electronic	Ten-Key	14	Fully	Yes	Yes	Yes	170
ADDO-XONIC	9958	1,445.00	Tube Display Electronic	Ten-Key	14	Fully	Yes	Yes	Yes	170
ALMA OFFICE MACHINES CORP.	Plurimatic	$385.00	Printing	Ten-Key	12/13	Fully	Yes	Yes	No	171
ALMA OFFICE MACHINES CORP.	Packard 'M'	299.50	Printing	Ten-Key	11/12	Fully	Yes	Yes	No	171
BOHN REX-ROTARY A DIVISION OF VICTOREEN, INC.	Contex 30	$249.50	Rotary	Ten-Key	11	Fully	—	—	Yes	172
BOHN REX-ROTARY A DIVISION OF VICTOREEN, INC.	Contex 10	139.50	Rotary	Ten-Key	11	Semi	—	—	Yes	172
BOHN REX-ROTARY A DIVISION OF VICTOREEN, INC.	Contex	349.50	Rotary	Ten-Key	11	Fully	—	—	—	172
BURROUGHS CORP.	C3350	$1,495.00	Electronic	Ten-Key	16	Fully	Yes	Yes	Yes	173
BURROUGHS CORP.	C3300	1,395.00	Electronic	Ten-Key	16	Fully	Yes	Yes	Yes	173
BURROUGHS CORP.	C1305	1,045.00	Key Drive	Full Keyboard	13/14	—	Yes	No	Yes	173
BURROUGHS CORP.	C3200	1,225.00	Electronic	Ten-Key	14	Fully	Yes	Yes	Yes	173
BURROUGHS CORP.	C3100	935.00	Electronic	Ten-Key	12	Fully	No	Yes	Yes	173
BURROUGHS CORP.	C1303	865.00	Key Drive	Full Keyboard	9/10	—	Yes	No	Yes	173
BURROUGHS CORP.	C1205	765.00	Key Drive	Full Keyboard	13/14	—	No	No	Yes	173
BURROUGHS CORP.	C1203	610.00	Key Drive	Full Keyboard	9/10	—	No	No	Yes	173
BURROUGHS CORP.	J700	299.00	Printing	Ten-Key	10/11	Semi	No	No	Yes	173
BURROUGHS CORP.	C3120	1,075.00	Electronic	Ten-Key	12	Fully	Yes	Yes	Yes	173
CANON	163	$1,395.00	Electronic	Ten-Key	16	Fully	Yes	Yes	Yes	174
CANON	161S	1,195.00	Electronic	Ten-Key	16	Fully	Yes	Yes	Yes	174
CANON	130S	995.00	Electronic	Ten-Key	13	Fully	No	Yes	Yes	174
CANON	120	N.A.	Electronic	Ten-Key	12	Fully	No	No	Yes	174
COMMODORE B.M.	401	$ 249.00	Ptg. Multiplier	Ten-Key	10/11	Fully	No	Yes	Yes	175
COMMODORE B.M.	1121	795.00	Electronic	Ten-Key	12	Fully	Yes	Yes	Yes	175
COMMODORE B.M.	1161	995.00	Electronic	Ten-Key	16	Fully	Yes	Yes	Yes	175
COMMODORE B.M.	500E	950.00	Electronic	Ten-Key	20	Fully	Yes	Yes	Yes	175
COMMODORE B.M.	AL-1000	1,495.00	Electronic	Ten-Key	14	Fully	Yes Four G.T.	Yes	Yes	175
COMMODORE B.M.	1152	1,195.00	Electronic	Ten-Key	15	Fully	Yes Two G.T.	Yes	Yes	175
COMMODORE B.M.	1152P	N.A.	Electronic Printer	Ten-Key	14	Fully	Yes Two G.T.	Yes	Yes	175
DERO RESEARCH DEVELOPMENT CORP.	Sage 1	$995.00	Electronic	Ten-Key	10 L.-20 T.	Fully	Yes	No	Yes	176
DICTAPHONE CORP.	1410	$975.00	Electronic	Ten-Key	14 Digits	Fully Aut. Dec. Option	Yes	No	Yes	177
FACIT-ODHNER, INC.	CA 2-16	$ 625.00	Rotary	Ten-Key	16	Fully	Yes	Yes	Yes	179
FACIT-ODHNER, INC.	CA 2-165X	525.00	Rotary	Ten-Key	16	Fully	Yes	Yes	Yes	179
FACIT-ODHNER, INC.	CA 1-13	445.00	Rotary	Ten-Key	9/8/13	Fully	Yes	Yes	Yes	179
FACIT-ODHNER, INC.	CI-13	185.00	Rotary	Ten-Key	13	Manual	Yes	Yes	Yes	179
FACIT-ODHNER, INC.	CA 2-16AC	645.00	Rotary	Ten-Key	16	Fully	Yes	Yes	Yes	179
FACIT-ODHNER, INC.	1004	225.00	Rotary	Ten-Key	9/13	Manual	Yes	Yes	Yes	179
FACIT-ODHNER, INC.	1051	685.00	Printing	Ten-Key	11/13	Fully	Yes	Yes	No	179
FACIT-ODHNER, INC.	1123	949.00	Electronic	Ten-Key	14/14	Fully	Yes	Yes	Yes	179
FACIT-ODHNER, INC.	1124	1,224.00	Electronic	Ten-Key	14/14	Fully	Yes	Yes	Yes	179
FACIT-ODHNER, INC.	1125	1,449.00	Electronic	Ten-Key	16/16	Fully	Yes	Yes	Yes	179

Calculators

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are measured in seconds.

The Burroughs C3000 can perform addition in one-thirtieth of a second. The machine can perform complex computations within its capabilities in about 300 milliseconds (one-third of a second). In contrast, a conventional rotary calculator typically requires seventeen to twenty seconds for a relatively routine exercise in division.

Portability. Through the use of integrated circuitry many of the newer electronic units offer great portability. These circuits reduce the size and weights of the models. Some of the newer models weigh about ten pounds as opposed to the more common 30 or 35 pounds for electro-me

. . . ELECTRONIC, ROTARY AND PRINTING

MANUFACTURER OR DISTRUBUTOR	MODEL NAME	PRICE	TYPE (Printing, Rotary, Electronic, etc.)	KEYBOARD (Full, Abridged, 10-Key, etc.)	CAPACITY (No. of Columns)	FULLY OR SEMI-AUTOMATIC	STORAGE FACILITIES (Yes or No)	BACK TRANSFER FEATURE (Yes or No)	DECIMAL POINT IDENTI-FICATION (Yes or No)	INQUIRY CARD NO. TO CIRCLE FOR MORE DATA
FRIDEN, INC	132	$1,150.00[1]	Electronic	Ten-Key	13	Fully	Yes	Yes	Yes	180
FRIDEN, INC	1150	1,295.00[1]	Electronic	Ten-Key	13	Aut.	No	Yes	Yes	180
FRIDEN, INC	1151	1,495.00	Electronic	Ten-Key	13	Aut.	Yes	Yes	Yes	180
FRIDEN, INC	STW-10	775.00[1]	Rotary	Full/Ten-Key	20	Fully	No	No	Yes	180
FRIDEN, INC	1217	625.00[1]	Printing	Ten-Key	13	Fully	Yes	Yes	Yes	180
FRIDEN, INC	1113	895.00[1]	Electronic	Ten-Key	12	Fully	Yes	Yes	Yes	180
IME SALES CORP.	86SR	$1,795.00	Electronic	Ten-Key	16	Fully	Yes	Yes	Yes	181
IME SALES CORP.	86S	1,645.00	Electronic	Ten-Key	16	Fully	Yes	Yes	Yes	181
IME SALES CORP.	86-2	1,295.00	Electronic	Ten-Key	16	Fully	Yes	Yes	Yes	181
IME SALES CORP.	26	945.00	Electronic	Ten-Key	12	Fully	Yes	Yes	Yes	181
IME SALES CORP.	KB6	400.00	Satellite	Ten-Key	16	Fully	Yes	Yes	Yes	181
IME SALES CORP.	DG-308	1,345.00	512 Step (Digicorder) Programmer	Abridged	Unlimited	Fully	Yes	Yes	Yes	181
IME SALES CORP.	86SR Base 8	1,945.00	Electronic	Eight-Key	16	Fully	Yes	Yes	Yes	181
IME SALES CORP.	86SR Base 5	1,945.00	Electronic	Five-Key	16	Fully	Yes	Yes	Yes	181
MONROE	EPIC 3000	$1,995.00	Electronic Printing Programmable	Ten-Key	16	Fully	Yes	Yes	Yes	182
MONROE	EPIC 2000	1,795.00	Electronic Printing Programmable	Ten-Key	16	Fully	Yes	Yes	Yes	182
MONROE	770	1,350.00	Electronic Display	Ten-Key	15 (30 for mult)	Fully	Yes	Yes	Yes	182
MONROE	580	950.00	Printing	Ten-Key	21	Fully	Yes	Yes	Yes	182
MONROE	740	1,195.00	Electronic Display	Ten-Key	15	Fully	Yes	Yes	Yes	182
MONROE	8F-1-213	1,010.00	Rotary	Full	10	Fully	No	Yes	Yes	182
MONROE	8F-213	875.00	Rotary	Full	10	Fully	No	Yes	Yes	182
MONROE	6F-212	825.00	Rotary	Full	10	Fully	No	No	Yes	182
MONROE	570	685.00	Printing	Ten-Key	10/15	Fully	Yes	Yes	No	182
MONROE	111E 116	345.00	Printing	Ten-Key	11/12	Fully (no div.)	Yes	Yes	No	182
NCR	NCR 18	N.A.	Electronic	Ten-Key	16 Digit	Fully	Yes	Yes	Yes	183
NIPPON COLUMBIA CORP. OF AMERICA	DEC 61A4 DENON	$995.00	Electronic	Ten-Key	14	Fully	Yes	No	Yes	184
OLIVETTI UNDERWOOD	101	$3,850.00	Electronic, Printing	Ten-Key[2]	22	Pro-grammable	Yes, 10 Registers	—	Yes	185
OLIVETTI UNDERWOOD	Logos 27-2	1,050.00	Printing	Ten-Key	15	Fully	Yes	Yes	Yes	185
OLIVETTI UNDERWOOD	Logos 27-1	825.00	Printing	Ten-Key	15	Fully	Yes	Yes	Yes	185
OLIVETTI UNDERWOOD	TET	875.00	Printing	Ten-Key	12/13	Fully	Yes	Yes	Yes	185
OLIVETTI UNDERWOOD	D24 GT	725.00	Printing	Ten-Key	12/13	Fully	Yes	Yes	Yes	185
OLIVETTI UNDERWOOD	D24	625.00	Printing	Ten-Key	12/13	Fully	Yes	Yes	Yes	185
OLIVETTI UNDERWOOD	M-24GT	560.00	Printing	Ten-Key	12/13	Fully	Yes	Yes	Yes	185
OLIVETTI UNDERWOOD	M-20	346.00	Printing	Ten-Key	10/11	Fully	No	No	Yes	185
PAILLARD INC.	167	$645.00	Printing	Ten-Key	12/13	Fully	Yes	Yes	Yes	186
REMINGTON OFFICE MACHINES	EDC III	$970.00	Electronic	Eleven-Key	20	Fully	Yes	Yes	Yes	187
REMINGTON OFFICE MACHINES	104	750.00	Printing	Ten-Key	16/17	Fully	Yes	Yes	Yes	187
REMINGTON OFFICE MACHINES	DM 99140	675.00	Printing	Ten-Key	13/14	Fully	No	No	Yes	187
REMINGTON OFFICE MACHINES	DM 99120	499.50	Printing	Ten-Key	11/12	Fully	No	No	Yes	187
REMINGTON OFFICE MACHINES	DX 94	399.50	Printing	Ten-Key	10	Semi	No	No	Yes	187
SHARP ELECTRONICS	CS-32C	$1,395.00	Electronic	Ten-Key	16	Fully	Yes	No	Yes	188
SHARP ELECTRONICS	CS-22C	1,175.00	Electronic	Ten-Key	14	Fully	Yes	No	Yes	188
SHARP ELECTRONICS	CS-17C	895.00	Electronic	Ten-Key	12	Fully	No	No	Yes	188
SHARP ELECTRONICS	CS-16C	995.00	Electronic	Ten-Key	12	Fully	Yes	No	Yes	188
SCM CORP.	Cogito 566 PR	$1,995.00	Electronic/Ptg.[3]	Ten-Key	16	Fully	Yes	Yes	Yes	189
SCM CORP.	Cogito 240 SR	1,195.00	Electronic	Ten-Key	24	Fully	Yes	Yes	Yes	189
SCM CORP.	416-S	1,185.00	Rotary/Ptg.	Ten-Key	16	Fully	Yes	Yes	Yes	189
SCM CORP.	316-A	985.00	Rotary/Ptg.	Ten-Key	16	Fully	Yes	Yes	Yes	189
SCM CORP.	10 CMA	755.00	Rotary	Full Keyboard	20	Fully	No	No	Yes	189
SCM CORP.	ABL	865.00	Rotary	Full Keyboard	20	Fully	No	No	Yes	189
SCM CORP.	8 CMA	695.00	Rotary	Full Keyboard	16	Fully	No	No	Yes	189

1—Subject to volume pricing. 2—Plus instruction keys. 3—Machine is programmable.

chanical models. Operating from these relatively new circuits, machines such as the Remington EDC 111, the new Dictaphone unit, and the Canon 163 and 161S also provide greater reliability because they basically contain no moving parts.

Floating Decimal. Featured in many electronic models is the floating decimal which automatically locates the decimal point in answers, even in cases where the number of decimal places in the entries vary. Toshiba's BC-1413P, the Dictaphone unit, and the Monroe 740 and 770 are machines which feature this capability. Many administrators consider this to be one of the main attractions

AM's GUIDE TO CALCULATORS *Continued*

MANUFACTURER OR DISTRIBUTOR	MODEL NAME	PRICE	TYPE (Printing, Rotary, Electronic, etc.)	KEYBOARD (Full, Abridged, 10-Key, etc.)	CAPACITY (No. of Columns)	FULLY OR SEMI-AUTOMATIC	STORAGE FACILITIES (Yes or No)	BACK TRANSFER FEATURE (Yes or No)	DECIMAL POINT IDENTIFICATION (Yes or No)	INQUIRY CARD NO. TO CIRCLE FOR MORE DATA
SCM CORP.	10 CMX	$ 790.00	Rotary	Full Keyboard	20	Fully	Yes	No	Yes	189
SCM CORP.	212	755.00	Printing	Ten-Key	12	Fully	Yes	Yes	Yes	189
SCM CORP.	10 CM	755.00	Rotary	Full Keyboard	20	Fully	No	No	Yes	189
SCM CORP.	8 CM	695.00	Rotary	Full Keyboard	16	Fully	No	No	Yes	189
SCM CORP.	505-X	595.00	Rotary	Ten-Key	16	Fully	No	Yes	Yes	189
SCM CORP.	8 CDT	475.00	Rotary	Full Keyboard	16	Semi	No	No	Yes	189
SCM CORP.	Cogito 616	1,395.00	Electronic/Ptg.	Ten-Key	14	Fully	Yes	Yes	Yes	189
SONY	ICC 500W	$1,250.00	Electronic	Ten-Key	14	Fully	Yes	Yes	Yes	190
SONY	ICC 600W	1,395.00	Electronic	Ten-Key	14	Fully	Yes	Yes	Yes	190
TOSHIBA-AMERICA INC.	Toscal BC-1411	$ 995.00	Electronic	Ten-Key	14	Fully	Yes	Yes	Yes	191
TOSHIBA-AMERICA INC.	Toscal BC-1201	825.00	Electronic	Ten-Key	12	Fully	Yes	Yes	Yes	191
TOSHIBA-AMERICA INC.	Toscal BC-1412	1,195.00	Electronic	Ten-Key	14	Fully	Yes	Yes	Yes	191
TOSHIBA-AMERICA INC.	Toscal BC-1621	1,395.00	Electronic	Ten-Key	16	Fully	Yes	Yes	Yes	191
TOTALIA	8381	$595.00	Printing	Ten-Key	12/13	Fully	Yes	Yes	Yes	192
TOTALIA	S3GT	445.00	Printing	Ten-Key	12/13	Fully[4]	Yes	Yes	Yes	192
TOTALIA	S3	395.00	Printing	Ten-Key	12/13	Fully[4]	Yes	Yes	Yes	192
TOTALIA	8925	350.00	Rotary	Full	10x11x21	Semi	No	No	Yes	192
VICTOR COMPTOMETER CORP.	12D	$ 995.00	Key Drive	Full	13	Semi	Yes	No	Yes	193
VICTOR COMPTOMETER CORP.	9D	865.00	Key Drive	Full	10	Semi	Yes	No	Yes	193
VICTOR COMPTOMETER CORP.	10-871	725.00	Printing	Ten-Key	13/14	Fully	Yes	—	Yes	193
VICTOR COMPTOMETER CORP.	Premier 79-88-54	635.00	Printing	Ten-Key	14	Fully	Yes	—	Yes	193
VICTOR COMPTOMETER CORP.	Custom 75-88-54	570.00	Printing	Ten-Key	11	Fully	Yes	—	Yes	193
VICTOR COMPTOMETER CORP.	Premier 77-88-54	560.00	Printing	Ten-Key	11	Fully	No	No	Yes	193
VICTOR COMPTOMETER CORP.	12 MGT	560.00	Printing	Ten-Key	12	Fully	Yes	—	Yes	193
VICTOR COMPTOMETER CORP.	Custom 73-85-54	495.00	Printing	Ten-Key	11	Fully	No	No	Yes	193
VICTOR COMPTOMETER CORP.	12 ML	445.00	Printing	Ten-Key	12	Fully	No	—	Yes	193
VICTOR COMPTOMETER CORP.	Custom 72-85-54	346.00	Printing	Ten-Key	11	Fully	No	No	Yes	193
VICTOR COMPTOMETER CORP.	Series 10	725.00	Printing	Ten-Key	14	Fully	Yes	Yes	Yes	193
VICTOR COMPTOMETER CORP.	1503	1,775.00	Printing	Ten-Key	14	Fully	Yes	Yes	Yes	193
VICTOR COMPTOMETER CORP.	1503R	1,975.00	Printing	Ten-Key	14	Fully	Yes	Yes	Yes	193
VICTOR COMPTOMETER CORP.	1510	2,175.00	Printing	Ten-Key	14	Fully	Yes	Yes	Yes	193
VICTOR COMPTOMETER CORP.	1510R	2,375.00	Printing	Ten-Key	14	Fully	Yes	Yes	Yes	193
WANG LABORATORIES, INC.	320S	$1,282.50[W]	Electronic	Ten-Key	10-14	Fully	Yes	Yes	Yes	194
WANG LABORATORIES, INC.	310S	1,087.50[W]	Electronic	Ten-Key	10-14	Fully	Yes	Yes	Yes	194
WANG LABORATORIES, INC.	370	3.425.00[M]	Electronic	Ten-Key	10-14	Fully	Yes	Yes	Yes	194
WANG LABORATORIES, INC.	300S	980.00[W]	Electronic	Ten-Key	10-14	Fully	Yes	Yes	Yes	194
WANG LABORATORIES, INC.	362	2,795.00	Electronic	Ten-Key	10-14	Fully	Yes	Yes	Yes	194
WANG LABORATORIES, INC.	360	2,495.00	Electronic	Ten-Key	10-14	Fully	Yes	Yes	Yes	194
WANG LABORATORIES, INC.	320	2,095.00	Electronic	Ten-Key	10-14	Fully	Yes	Yes	Yes	194
WANG LABORATORIES, INC.	310	1,805.00	Electronic	Ten-Key	10-14	Fully	Yes	Yes	Yes	194
WANG LABORATORIES, INC.	300	1,600.00	Electronic	Ten-Key	10-14	Fully	Yes	Yes	Yes	194
WANG LABORATORIES, INC.	380	3,125.00[A]	Electronic	Ten-Key	10-14	Fully	Yes	Yes	Yes	194
WANG LABORATORIES, INC.	200S	860.00[W]	Electronic	Ten-Key	10-14	Fully	Yes	Yes	Yes	194
WANG LABORATORIES, INC.	210S	970.00[W]	Electronic	Ten-Key	10-14	Fully	Yes	Yes	Yes	194
WANG LABORATORIES, INC.	240S	1,100.00[W]	Electronic	Ten-Key	10-14	Fully	Yes	Yes	Yes	194
WANG LABORATORIES, INC.	250S	1,200.00[W]	Electronic	Ten-Key	10-14	Fully	Yes	Yes	Yes	194
WANG LABORATORIES, INC.	360S	1,497.50[W]	Electronic	Ten-Key	10-14	Fully	Yes	Yes	Yes	194

4—Fully automatic multiplication. W—Prices are per-user, for a 4-keyboard connection to simultaneous operation calculating electronics. M—Includes 80 steps of progr expandable to 480, with fast loops, branches, sub-routines. A—Includes 40 to 640 step program capacity with decision making test—loops, branches, sub-routines.

Calculators

CONTINUED

of the electronic calculators.

Roundoff and Overflow Indicator. Two other features common to most electronic calculators are a roundoff and overflow indicator. Roundoff, found on many models (NCR 18, Monroe, etc.) allows a number in problems of multiplication and division to be rounded off to the nearest whole number. The overflow indicator is a device which informs the user when the results of a calculation exceed the number of permitted digits. With such a device there is no need to worry about a mistake because of overflow. Models marketed by Sharp, Dero Research and Toshiba are just some of th machines which feature this c pacity.

Newer electronic models wi not only calculate, but can b programmed and also have th capability of printing out pro lems and answers. There ar even electronic calculators o the market that do not perfor any calculations themselves b

Calculators . . . *Important office tool* CONTINUED

serve as units which enable a user to communicate with a distant computer which actually performs the calculations.

Olivetti's Programma 101 is a self-contained, desk-top machine capable of either operating as a high-speed electronic printing calculator or as a completely automatic computer with the ability to follow stored instructions and to make logical decisions—that is, to choose between alternative courses of action.

Program instructions and constants are entered into the memory directly at the Programma 101's keyboard. The entire program can be automatically transferred to and from a Magnetic Program Card for off-machine storage and repeated use. This card can be magnetically erased and re-used to store other programs at the option of the operator.

Friden's model 1151 is another programmable calculator. The company feels that this model, because of its programmability, is of special interest to people who work on repetitive problems such as percent of increase and decrease, polynomial roots, invoice sell and cost, or series evaluations. With a machine like the 1151, instead of pressing all those keys every time the operator must do a problem, all the worker does is press the "Learn" key and work the problem once. This action causes the 1151 to remember up to 30 mathematical steps.

Wang's system 380 adds a programming capability, optional extra storage and optional printing capability to any of the manufacturer's calculators. The magnetic tape cartridge of the 380 Keyboard is used to learn a sequence of keystrokes executed to perform a given calculation manually under operator control. Subsequently, identical calculations are automatically, repetitively performed without further operator instruction. Once finished, the programs may be erased or the cartridge may be removed and retained.

Other machines which are programmed include the IME 86S and the 86SR, the SCM Cogito 566PR and the Monroe Epic 3000.

ROTARY

THE NEW rotary calculators can be either electric or manual. On the manual models, such functions as totaling or clearing are carried out by movements of levers rather than by pressing the required keys. Rotary models operate on a principle of circular dials upon which figures appear. Depressing a key activates a particular dial which spins until the correct digit appears in the register window.

Most new rotary models combine simplicity and sophistication. Standard features on such machines might include: fully automatic multiplication with automatic clearance of dials and keyboard, automatic accumulative multiplication, multiplication with a constant factor, negative multiplication, automatic division, and a special stop key to halt division at the desired decimal point. Monroe, Burroughs, SCM, Bohn Business Machines, Friden, and Facit-Odhner are some of the companies which offer a wide range of rotary calculators.

PRINTING

ON THE whole, the least expensive members of the calculator family are the mechanical printing units. Features that a manager will find on the more advanced models include: completely automatic multiplication and division, addition and subtraction, automatic recall, memory storage, constant and negative multiplication, and short-cut multiplication.

With automatic recall, every last-printed number (including sub-total, grand total, products and quotients) is automatically fed into a recall system. By simply operating the add or subtract bar, the operator can feed the last-printed number back into the adding mechanism

either positive or negative.

Because of memory storage, the operator can store any last-printed number and return it at will to the adding mechanism with a simple push of the key. The memory storage also serves to add several groups of numbers, printing each individual result.

One of the latest printing calculators is Paillard's Hermes 167. The manufacturer describes the unit as four machines in one: an adding machine, automatic multiplier, a machine that provides accumulated grand totals, and an automatic divider.

Another printing calculator of interest is the Monroe 570. This machine can automatically sum the products of several multiplications while printing each product. With this calculator, the operator also has the option o doing a single multiplicatio without disturbing a total in th machine.

Facit's model 1051 printin calculator, capable of functio ing for all four arithmetic ope ations, is equipped with a mem ory which enables the user multiply by a constant fact and automatically further pro ess all results. The unit is fas operating at a speed of 4 r.p.m. It can print results co taining up to thirteen digi The operator can continue multiply intermediate answe of large capacity on this machi since it automatically eliminat digits when necessary a rounds off the number correct

Many electronic calculat are also of the printing ty A line of high-speed desk electronic printing calculat has recently been introduced Victor Comptometer Corp. four Series 1500 models have ability of internally checking accuracy of their own calc tions. Core memory provi these models with non-dest storage in either three or registers independent of the operating registers. Some of machines have automatic sq root capabilities. This fun is replaced on the other chines by one that automatic rounds off to dollars and for commercial and office us

CALCULATORS today ar deed a very important tool. Perhaps this is becaus number of calculations must be performed in offices year is rising sharply an coming more complex. I past, most office calculatio volved just addition and traction, some multiplic and a little division. Stati calculations such as coef correlation or standard dev were not in common use times have changed and work and other types equ complex are now being formed in many offices.